



SEQUENCE LISTING

RECEIVED
JUL 22 2003
TECH CENTER 1600/2800

<110> YE, Jane et al.

<120> ISOLATED HUMAN RAS-LIKE PROTEINS,
NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE
PROTEINS, AND USES THEREOF

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 ctgagacact gactgtccct cccctatcc ttttcgtctt tctggccagc agaccagcag 600
 g 601

<210> 16
 <211> 601
 <212> DNA
 <213> Homo sapiens

<400> 16

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ggagctgggt tacattccaa gggagtgcac aggaagctgt gtttcatttc agtttctgct 120
ctagtacccc cttttccctg gcagtgccag ggtctgagaa ggaagagtga ggtgggtgagg 180
aggtgtgaag cagtgggggtg acctgagagg agaggatggg gtggctttgc ctcaaggctt 240
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cgcgagggtt ttccgctgct gtgcatctgt gccacagatc cgcagatgca cccacagctg 420
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ttccttctcc ccgctcccca gacaggctgg tgatgagctt tataacatga aagctgatat 540
ttggccatta tccttctacc ctgattgcc a gctcttctca gagtgccttc ttctgtaatc 600
c 601
```

<210> 17

<211> 601

<212> DNA

<213> Homo sapiens

<400> 17

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gagaacacct ccagtggggc tgctactctt cagccttgct ggggccagct ggagtggcca 180
caccatgggtc acaccagctg aagttcaaga agccccttgc caggagattg ctttgctggc 240
tctgggtgag ggcaggtgca tctggaagcc cccttcttct taagatgttt gctcctgagt 300
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gagaaggagg ctggaggagt gagtggctcag tagcctgggt ggtcttggct gcctctgtgg 420
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ggggagcgag atgggggtggc tggagcacac tgcacatgtc accaaggctc tagggaggtc 540
tgtgcacaag gcagtgggaa aagcaagggg aagaccagc ctggtcaaca tgggtgaaacc 600
c 601
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<210> 18

<211> 601

<212> DNA

<213> Homo sapiens

<400> 18

```
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accacagga ggtgcacatg gccacacat gctggtttcc tgcagtggga ggggctgggg 180
cactcctggg acctgtgctt ggtaactgga gctggcctgg ccctggggat tgggtgtctg 240
ccttgggttt caggtgtatt aggttgttcc tcgttggtga gtctcattac taatgaaaag 300
ytcaggtcgc actgctggtc ctttgggctg tggttgatcc tggtgataac atttggcacc 360
cagaggcagc cctgtttcca ctgaagcatg cggagcttgg ctggcaggca ggcaagctgg 420
cagctgccct taacctatga ggtgctggcc cgctagtagg cacaccctac ctgtgccaga 480
attgaggttg tagccagact ccaggagcca tctgggcccc acagggggcg gcatttcttc 540
tttttgttga aacattccag ccaagtgtg gcttgggctt catctctctg tcccactctc 600
c 601
```

<210> 19

<211> 601

<212> DNA

<213> Homo sapiens

<400> 19

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ccctgtgtta tgggtttttac accttatctc acaatcttaa aaaaaaatt ctctgagaat 60
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cctctgtcac ccccaacttta caggtgagga aactgaggca aagataggct aactggcttc 120
cccaacacca tgcaggtaat tagtgataaa ggcagggttg gaaccaaact tgacctccca 180
attgtgctct taatggccag gacactctgt gtcttgagcc acacttcctc catgttttct 240
agggttttct agggaggcag acagtgatgg gaaggggtgt tctttagtgt ggatgtgccc 300
ygctgctcc tttctgtaag cgtcacagca cctccactgc tgtactgggg aggcaccaag 360
tttttccctg tttgccacc caaggcgagc tagcttagga gtcacgtgag tgctgggtgt 420
ctcgctgct gcatccctct atcctgcccc tgccccgggt gccagagga gggccctgcc 480
tgtcttccca gttctccaac agcagcgctg tcccagcacc ctcggtctcc agttgtggcc 540
tggcagctgc tggggcagac accatacaga cagagtcaca gcaggaagag gatggggccc 600
a 601

```

```

<210> 20
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 20
ggaaggggtg ttcttttagtg tggatgtgcc ctgctgctc ctttctgtaa gcgtcacagc 60
acctccactg ctgtactggg gaggcaccaa gtttttccct gtttgccac ccaaggcgag 120
ctagcttagg agtcacgtga gtgctgggtg tctcgctgc tgcacccctc tatcctgccc 180
ctgccccggg tgcccagagg agggccctgc ctgtcttccc agttctcaa cagcagcgct 240
gtcccagcac cctcggtctc cagttgtggc ctggcagctg ctggggcaga caccatacag 300
mcagagtcac agcaggaaga ggatggggcc cagggtgct gcctcaggcc atggctgcat 360
ggcaccatca gttgattgag gagcttttct tgccaatgtc tgaggcatca ggtggcagga 420
cacgtctccc tgctcttaag cctcaggcat gcagcccttc ttatgctctc tggggtgagg 480
gggagatccc cctcatggaa ttgctttttt tttttttttt ttttttttga gacagggtcc 540
tgctctgtca ctcaggctgg agtgcagcct caacctccca gactcaagtg atcctcctgc 600
c 601

```

```

<210> 21
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> variation
<222> (301)...(301)
<223> 't' may be either present or absent

```

```

<400> 21
tctccaacag cagcgctgtc ccagcaccct cgggctccag ttgtggcctg gcagctgctg 60
gggcagacac catacagaca gagtcacagc aggaagagga tggggcccag ggctgctgcc 120
tcaggccatg gctgcatggc accatcagtt gattgaggag cttttcttgc caatgtctga 180
ggcatcaggt ggcaggacac gtctccctgc tcttaagcct caggcatgca gcccttctta 240
tgctctctgg ggtgaggggg agatccccct catggaattg cttttttttt tttttttttt 300
tttttgagac aggttctgc tctgtcactc aggttgaggt gcagcctcaa cctcccagac 360
tcaagtgatc ctctgcctc agcctcccga gtagctggga ccacaggtgg acaccatcac 420
acctgggttt ttttgttttt tgttttttgt tttctagaga tggggtctca ctttcttgct 480
cagctctggtc tcgaactcct gggcgcaagc agtctccca cctcgtcttc ccaaagtgtt 540
tgattacag gtgtgagcca ctgtgcttgg cctttttatt tatttagaat ttgttttggg 600
a 601

```

```

<210> 22
<211> 601
<212> DNA
<213> Homo sapiens

```


<400> 22
ggatgtttct tccatgacat atatagctct tgaaactact tctatctaata atcacccaca 60
gtgctgttaa aaatacagat ttctgggcct caccctcaaa ttatgattca gtaggtctag 120
gcacgtcaag gtcattgttt ttgtctttgt ttttaagtcac cccaggtgat tctaaagccg 180
aagctctgca aagcacacct tgagaaacag agaactcttg tgctctcgct ctcttgacac 240
ttcaggtgca aaacttttgt cctaattgtcg ttctcaaact tacgcatgtg tgagaatcac 300
ygtgagagct tattgaaact gattgcgagg ccccatacct agagggcctg attctatagg 360
tctgaggtaa ggcccaagaa tttgcatatt tgcatttcgt tttcttttcc tttcttttct 420
tttttttttt ttttgagatg aagtctcacc ctgtcgccca gactggagtg cagtggcatg 480
atctcagctc actgcagcct ctgcctcctg gggttaaagcg attctcccca caccacagac 540
ccgctcctga gtagctggga ttacaggtgc ccgccaccat gactagctaa cgtttgtatt 600
t 601

<210> 23

<211> 601

<212> DNA

<213> Homo sapiens

<400> 23
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cgaagctctg caaagcacac cttgagaaac agagaactct tgtgctctcg ctctcttgac 120
acttcaggtg caaaactttt gtcctaattgt cgttctcaaa cttacgcatg tgtgagaatc 180
actgtgagag cttattgaaa ctgattgagg gaccccatcac ctagagggcc tgattctata 240
ggctctgagg aaggcccaag aatttgcata tttgcatctc gttttctttt ctttctttt 300
yttttttttt ttttttgaga tgaagtctca ccctgtcgcc cagactggag tgcagtggca 360
tgatctcagc tcaactgcagc ctctgcctcc tgggttaaag cgattctccc cacaccccag 420
accgctcct gagtagctgg gattacaggt gcccgccacc atgactagct aacgtttgta 480
tttttagtag agacgggggt ttcacatgt tggccaggct ggtctcaaac tcctgacctc 540
aggtgatcca ctcacctcag cctcccaagg tcttgggatt actggtgtga gccaccgctg 600
g 601

<210> 24

<211> 601

<212> DNA

<213> Homo sapiens

<400> 24
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agctgggatt acaggtgccc gccaccatga ctactgaacg tttgtatttt tagtagagac 120
gggggtttca ccatgttggc caggctgggc tcaaactcct gacctcaggt gatccactca 180
cctcagcctc ccaaggtctt gggattactg gtgtgagcca ccgctgctcg ccagaatttg 240
catttctaac aagtcccagg tgatgctgat gctgtgggtc cagggacaca ctttgagaac 300
hgcttggtac tcaggcgata tgtggacagt agcgtcatct tcacctggga gcttcctgca 360
gcatctcagg ccttgcccta cacctaccag atcagaatct gcattttaac tcaatccccg 420
cgtgattctc atgcacctgg aagtttgaga aatatgacct tagaggagcc ggaatgtgaa 480
accactggag gcagagatag atggagaata tctcttcttc tcacggatac taaagatgca 540
acaaaaaggg ctgactctct ggggtgtgcac ccaggtgggg ctgatgaccg aaaagaggcc 600
a 601

<210> 25

<211> 601

<212> DNA

<213> Homo sapiens

<400> 25
tgtgtgtgag gccggggagt gctgagagcc ccggaattcc tcagccttag tcccccgcca 60
catagctaag aagtgagggg ggaggtgaga aggagtcact gccagcctc acttccggtg 120

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gagtaccctg tctccttgtc agttctgtct ctggggacag ttgcctgctt tcacctctcc 180
ctccatcccc tcttctctca cagggaaaaa ttcaccttaa tattggaagt tcctctccta 240
gcaaagtcct tctcaggcac ccacaggcaa aaaggaaact aagcagagtt agggcttcca 300
kgcctagcca actacacgac tctcctcttg cttccctaag aaccagcgca aggggcagcg 360
tgggttccag catagatgga cctgtgttgg aatctctgca cgtgctgtgc tgacctggc 420
tagccattga cctctctgag cccttgtttc cttccacta ggctctctga gggcaggggc 480
catgtctttt tctactgctct gtctgactg agcactgtgc agggcacata ggaagttccc 540
ataaatgttt gtgggataaa ggaaataaaa ccttctctct tcctgtcccc cttgtgatgg 600
c 601

```

```

<210> 26
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 26
aaagtccttc tcaggcaccc acaggcaaaa aggaaactaa gcagagttag ggcttccagg 60
cctagccaac tacacgactc tcctcttgc tccctaagaa ccagcgcaag gggcagcg 120
ggttccagca tagatggacc tgtgttggaa tctctgcacg tgctgtgctg accctggcta 180
gccattgacc tctctgagcc cttgtttcct ttccactagg ctctctgagg gcaggggcca 240
tgtctttttc actgctctgt ctgactgag cactgtgcag ggcacatagg aagttcccat 300
raatgtttgt gggataaagg aaataaaaacc ttctctcttc ctgtccccct tgtgatggct 360
ttgcacaagg cactgtcctt ggccagggtt gctaggctag tgtaggata aaccaggtat 420
attacaaatt ggagaaaatt tctcgttctt cttggaagaa ggtgctgtat catgaaacaa 480
gaatgtcttg attcccttct atgccaggta ctggggagaa acaggtgcct gataaccgtt 540
gatccaggca gaaataagca tactcctgct tcccaaggcc tgatgcttct ctccttcctc 600
c 601

```

```

<210> 27
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 27
ccttgatga agaagcgtgg gaactctttg cttcctttcc ctcccgcagt gacatgccat 60
gccatgccac tgctcttca tctggtccta tgacagtcac tcataagcac ccgcatgtac 120
ccggccctgc actagctcat gacagctgca gtcaattggg ccagggtgctg tatctcatcc 180
ggcctcctca gcaaccctct gagatactgg taatgtccct gatgaagata tttactgagg 240
cagaaatgga cgctcagtga agcaagggtc ctgatgttat agcaatgagc tatgagtggc 300
yagagggagg agataagctc aggcctgaca ccaaagccca tgctccttct agtcaaccac 360
agtgcctcct atggtgaatg agtgagtcag caaccaagac gcatgaggcc ttcttttttg 420
tgagccttgg ctgggtgctg aggccttcagg tacaatcatg gggtggaaga gccctcctct 480
ctctccacag tctggcacta tgacccttcc tggttattaa caaggcaaag agagagaggg 540
aagaaagcag gcaaataatg tgggttgcta ttcctagaga ttagaatttc aggaaggata 600
a 601

```

```

<210> 28
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 28
ttctctgacc cctccccctc ggtgcgtttc gtatcaaagc tcctcaaacc ccgtcccccg 60
tgtgtcctgc tgtgtgcagc tcgtcttttc cttccttcc taaagctatcca aggggatgga 120
cccaggctcg tggggagggt ccacccttgg atccaggaag aaccctccac cctgcctcgt 180
gggtgggcca aaggctacag ggtgcttctt cctcttcccc caccctccact gtccctcatg 240
tgccatgggc ctgcctcccc agtgacctgc gaaagtggag catcgaggta ggagggaaac 300

```

```

rgcaaccagg gagtcctcga gcctggggct gccctacctc taccattcc cgcaccagag 360
ctttgccctt gcttggtctgc ccgcctgcct ctttggggaa ctgagctcag aggcagggtgc 420
ttcagagaag gaaacaaaat gaggggtggc agggataaaa agtcacctcc attctctacc 480
tcccatgcag catgaacaca atttctctcc acctggctcc caaattttaa gatgtggacc 540
aaggcctgtg ggtactccag gggcaaggag agccctgggg tcagtgcacac tgtcaggcca 600
a
601

```

```

<210> 29
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 29
accctcccc tccggtgcgt ttcgtatcaa agtcctcaa acccgtccc ccgtgtgtcc 60
tgctgtgtgc agtcgctct ttccttcctt cctaagctat ccaaggggat ggaccaggc 120
tcgtggggag gttccaccct tggatccagg aagaaccctc caccctgcct cgtgggtggg 180
ccaaaggcta caggggtgctt ctctctcttc cccaccccc actgtccctc atgtgccatg 240
ggcctgcctc cccagtgcac tgcgaaagtg gagcatcgag gtaggagga aacggcaacc 300
rgggagtctt cgagcctggg gctgccctac ctctacccat tccccacca gagctttgcc 360
cttgcttggtg tgccgcctg cctctttggg gaactgagct cagaggcagg tgcttcagag 420
aaggaaacaa aatgaggggt ggcagggata aaaagtcacc tccattctct acctcccatg 480
cagcatgaac acaatttctc tccacctggc tcccaaattt aaagatgtgg accaaggcct 540
gtgggtactc caggggcaag gagagccctg gggtcagtga cactgtcagg ccaaccatgc 600
a
601

```

```

<210> 30
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 30
gccagggact tgagaagtta tattgggcag tggctccaat ctgtggacca gtatttcagc 60
tttcctgaa gatcaggcag ggtgccattc attgtctttc tctcctagcc cctcaggaa 120
agaaggacta tattgtact gtaccctagg ggttctggaa gggaaaacat ggaatcagga 180
ttctatagac tgataggccc tatccacaag ggccatgact gggaaaagg atgggagcag 240
aaggagaatt gggattttag ggtgcagcta cgctcacctc aaacttttg tggcctggg 300
yatgtcttga ggcccagact gttaaccagg ctctgctggc ctgtttactc gtcaccacct 360
ctgcacctgc tgtcttgaga ctccatccag cccagggcac gccacctgct cctgagcctc 420
cactatctcc ctgtgacggg tgaacttcgt gtactgtgtc tcgggtccat atatgaattg 480
tgagcagggt tcatctattt taaacacaga tgtttacaaa ataaagatta tttcaaacca 540
ccggtgtggc tgcctggatg agtccttggg ggtaggtctc actcagacct tggcagtgat 600
g
601

```

```

<210> 31
<211> 601
<212> DNA
<213> Homo sapiens

```

```

<400> 31
ggcagtggct ccaatctgtg gaccagtatt tcagctttcc ctgaagatca ggcagggtgc 60
cattcattgt ctttctctcc tagccccctc aggaaagaag gactatattt gtactgtacc 120
ctaggggttc tggaaggga aacatggaat caggattcta tagactgata ggccctatcc 180
acaagggcca tgactgggaa aaggatggg agcagaagga gaattgggat tttagggtgc 240
agctacgctc accctaaact tttggtggcc tggggcatgt cttgaggccc agactgttaa 300
scaggctctg ctggcctgtt tactcgtcac cacctctgca cctgctgtct tgagactcca 360
tccagcccca ggcacgccac ctgctcctga gcctccacta tctccctgtg acgggtgaac 420
ttcgtgtact gtgtctcggg tccatatatg aattgtgagc agggttcatc tattttaaac 480

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acagatgttt acaaaataaa gattattttca aaccaccggt gtggctgcct ggatgagtcc 540
 ttgggggtag gtctcactca gaccctggca gtgatgtggg agggagagag gcagtgtctgg 600
 t 601

<210> 32
 <211> 601
 <212> DNA
 <213> Homo sapiens

<400> 32
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 ccaggcacgc cacctgctcc tgagcctcca ctatctccct gtgacgggtg aacttcgtgt 120
 actgtgtctc ggggtccatat atgaattgtg agcaggggtc atctatttta aacacagatg 180
 tttaacaaat aaagattatt tcaaaccacc ggtgtggctg cctggatgag tccttggggg 240
 taggtctcac tcagaccctg gcagtgatgt gggagggaga gaggcagtgc tggtagaagc 300
 rgctccagaa gcaaaggcaa cagcagtaga gtgaccacgg aagcggcaaa cattgtcttc 360
 ccttctctac cttccctagt gccacctgca gggaggccca aagcaaagcc ccgttgcctt 420
 gcattgggct ggcactgcag aaataagatg aaacacagtt atcgagagga tgctgaacat 480
 ctatgagcag gttttaaagc caagatgagt ctcatctgtt tgtgtgggtc aggaacgggt 540
 cttcctgaag gcatgagggt ggactggata atctttcaga tttgtgattg gataacctcg 600
 g 601

<210> 33
 <211> 601
 <212> DNA
 <213> Homo sapiens

<400> 33
 gcacgccacc tgctcctgag cctccactat ctccctgtga cgggtgaact tcgtgtactg 60
 tgtctcgggt ccatatatga attgtgagca ggggtcatct attttaaaca cagatgttta 120
 caaaataaag attattttcaa accaccgggt tggctgcctg gatgagtcct tgggggtagg 180
 tctcactcag accctggcag tgatgtggga gggagagagg cagtgtcgtt agaagcagct 240
 ccagaagcaa aggaacagc agtagagtga ccacggaagc ggcaaacatt gtcttccctt 300
 stctaccttc cctagtgcc cctgcaggga ggcccaaagc aaagccccgt tgccctgcat 360
 tgggctggca ctgcagaaat aagatgaaac acagttatcg agaggatgct gaacatctat 420
 gagcaggttt taaagccaag atgagtctca tctgtttgtg tgggtcagga acgggtcttc 480
 ctgaaggcat gaggtgggac tggataatct ttcagatttg tgattggata cctcggggga 540
 gcagaggcag actgggatct caggactgca ggtatttcat actttgggat atggaattga 600
 t 601

<210> 34
 <211> 7
 <212> PRT
 <213> Homo sapiens

<220>
 <221> VARIANT
 <222> (1)...(7)
 <223> Xaa = Any Amino Acid

<400> 34
 Gly Xaa Xaa Xaa Xaa Gly Lys
 1 5

<210> 35
 <211> 5

<212> PRT
<213> Homo sapiens

<400> 35
Asp Thr Ala Gly Gln
1 5

<210> 36
<211> 4
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(4)
<223> Xaa = Any Amino Acid

<400> 36
Asn Lys Xaa Asp
1

<210> 37
<211> 5
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(5)
<223> Xaa = Any Amino Acid

<400> 37
Glu Xaa Ser Ala Xaa
1 5

<210> 38
<211> 4
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(4)
<223> Xaa = Any Amino Acid

<400> 38
Cys Ala Ala Xaa
1